

ABSTRACT

A boring such as a high accuracy boring is performed by inputting vibration only in the moving direction of a tool. The device includes an ultrasonic horn functioning as a vibrator, a punch functioning as a boring tool for boring into a workpiece which is an object to be bored, a guide bush guiding the punch in the moving direction, an elastic body for retaining the punch in a floating state on the guide bush, and a die functioning as the boring tool formed in pairs with the punch. The punch is floatingly retained by the elastic body inside the guide bush, and vibration is applied to the punch by the ultrasonic horn to make the punch jump toward the workpiece to strike the workpiece for boring into the workpiece.